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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/282,851	03/31/1999	CHANG-SOO PARK	678-252 (P8722)	9197

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12/04/2002

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EXAMINER

LAMARRE, GUY J

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/282,851

Applicant(s)

PARK ET AL.

Examiner

Guy J. Lamarre, P.E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

0. This office action is in response to Applicants' amendment (paper # 8), filed on 16 September 2002. The petition for 1-month extension of time (paper # 7), jointly filed, has been granted. The CFR (paper # 6), filed on 28 May 2002, has been entered.

0.1 Original Claims 1-47 are cancelled. Claims 48-99 are added. Claims 48-99 are presented for examination.

0.2 The prior art rejections of record to Claims 1-47 under 35 U.S.C. 103, as set forth in the office action of 8 May 2002, due to cancellation of said claims, are withdrawn in response to Applicants' amendment, filed on 16 September 2002.

0.3 The objections of record to the *Drawings* and **Claims 3 and 30**, as set forth in the office action of 8 May 2002, are withdrawn in response to Applicants' amendment, filed on 16 September 2002.

0.4 Examiner has not considered the third and fourth references listed on the Information Disclosure Statement (paper # 3) because no English translation has been submitted. USPTO Form 1449 for Information Disclosure Statement (paper # 4) is not seen. Once again, Examiner hereby requests that said form accompany response to instant Office action.

Response to Arguments

0.5 Applicants' arguments, filed 16 September 2002, have been fully considered, but they are not found persuasive because they relate to what the instant invention is rather than to what the claimed invention is about. Specifically, a QoS parameter is not, at first sight, understood to be necessarily related to latency or delay time as alleged by Applicants.

Drawings

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1. The Drawings are objected to under 37 CFR 1.83(a) because Figure 6 does fail to show 'frame recomposer 118' as amended on page 23 paras. 2-3 of the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Appropriate correction to drawings as required by form PTO 948 shall be made in response to current Office action as per 37 CFR 1.85(a).

Claim Objections

2. The listed claims are objected to as follows:

Claims 48-99, in passim recites: "capable of ..." It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

Claim 48 (and intervening Claims) line 4 recites "a QoS parameters." It is not clear to Examiner whether QoS is plural or singular. There a lack of consistency in use for QoS parameters in Claims 52, 53, 55-57.

Claim 79 line 4 recites "a input frame" instead of "an input frame."

Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first and **second** paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.1. **Claims 51, 58, 70-71, 84-85, and 89-90 are rejected under the first paragraph of 35 U.S.C. 112** for failing to describe the manner in which the multiplexer performs the puncture

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function for rate matching or the manner in which mobile communication system is installed in a base station respectively.

3.2 Claims 51, 58, 70-71, 84-85, and 89-90 are rejected under the second paragraph of 35 U.S.C. 112. It is unclear to the Examiner how the multiplexer performs the puncture function for rate matching or how mobile communication system is installed in a mobile station respectively.

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.0 This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4.1 Claims 48-49, 52-54, 58-63, 65-66, 70-72, 74-75, 79, 80-91, 93-96 and 98-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted prior art (hereinafter Admitted prior art) in view of Meidan et al. (US Patent No. 5,936,972; June 18, 1997).

As per Claims 48, 58-63, 65-66, 70-72, 74-75, 79, 80-91, 93-96 and 98-99 Admitted prior art substantially discloses the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) capable of processing variable size input data blocks comprising: means to send data or a processor for determining to concatenate a number of consecutive input data blocks to compose a super frame, according to a QoS parameters of the input data; and a turbo encoder (page 1 last para.) a buffer for storing the

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consecutive input data blocks (dk); a first constituent encoder (Fig. 1 block 12) for receiving the super frame and encoding the super frame which is composed of a number of input data blocks; an interleaver (Fig. 1 block 16) for interleaving the data of the super frame; and a second constituent encoder (Fig. 1 block 14) for encoding the interleaved data of the super frame. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art** is the step whereby means is provided for determining a number of input sub-frames or sub-blocks or sub-packets required to construct a super frame or frame or block or packet based on a QoS parameter or transfer media characteristics.

However the approach of breaking or partitioning or segmenting or dividing a data super frame or frame or block or packet into sub-frames or sub-blocks or sub-packets and performing the reverse transformation to recover the original data subsequent to intermediate processing is well known. For example, **Meidan et al.**, in an analogous art, discloses an interleaving algorithm wherein such techniques are described based on bit error rate or message width, type of interleaving or QoS parameter or transfer media characteristics. {See **Meidan et al.**, Id., Fig. 2, ABSTRACT and col. 2 lines 7 et seq., and col. 5 et seq.} **Therefore**, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure of the **Admitted prior art** by including therein width adjusting means based on the kind of information to be sent, as taught by **Meidan et al.**, because such modification would provide the procedure disclosed in the **Admitted prior art** with a technique whereby *“the message structure determiner 160 uses syndrome vectors to estimate the BER of symbol-by-symbol detected data to ascertain the received signal quality and determine the most likely transmitted message structure. In this embodiment, the transmitted message structure can be varied in length, type of interleaving, source data rate, convolutional code used, and any*

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combination of the above. This embodiment may also be modified to allow only certain properties to be varied or only allow certain combinations of the above properties to be varied."

{See **Meidan et al.**, col. 5 line 15 et seq.}

As per Claims 49, 52-54, **Meidan et al.** discloses the procedure for the claimed mobile communication system as claimed in claim 48, wherein said interleaver includes an interleaving address mapper for interleaving said super frame. {See **Meidan et al.**, col. 5 line 15 et seq., e.g., "*the transmitted message structure can be varied in length, type of interleaving.*" including data addressing and mapping means}

4.1.1 Claims 50-51, 54-57, 64, 67-69, 72-73, 76-78, 92, and 97, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted prior art** (hereinafter **Admitted prior art**) in view of **Meidan et al.** (US Patent No. 5,936,972; June 18, 1997) in further view of **Erroz et al.** (US Patent No. 6,370,669; Jan. 23, 1998).

As per Claims 50, 64, 72-73, 92, 97, **Admitted prior art and Meidan et al.** substantially disclose the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) capable of processing variable size input data blocks. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art or Meidan et al.** is the step whereby means is provided for channel interleaving and multiplexing or modulation. **However** such approach is well known. For example, **Erroz et al.**, in an analogous art, discloses an information-processing algorithm wherein such techniques are described. {See **Erroz et al.**, Id., Fig. 2 blocks 212 and 214.} **Therefore**, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure of the **Admitted prior art and Meidan et al.** by including therein channel interleaving and multiplexing means, as taught by **Erroz et al.**, because such modification would provide the procedure disclosed in the **Admitted prior art and Meidan et al.** with a technique

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whereby "*a channel 212 interleaver pseudo-randomizes code symbols*" for better burst error protection. {See Erroz et al., col. 6 line 28 et seq.}

As per Claims 51, 54-57, 67-68, 76-77, Erroz et al. discloses the procedure for the claimed puncturing means, including means for latency or permissible delay (col. 1 line 25 et seq.), block size or memory size adjustment (col. 2 line 10 et seq.). {See Erroz et al., col. 14 line 12 et seq.}

As per Claims 69, 78, Meidan et al. discloses the procedure for the claimed error rate feature. {See Meidan et al., col. 3 line 50 et seq.}

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited in Form PTO-892 are for the Applicant's review and comments.

5.1 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5.2 Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

or faxed to:

(703) 746-7238, (for After-Final communications),

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(703) 746-7239, (for formal communications intended for entry),

(703) 746-5463 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Fourth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (703) 305-
0755. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Albert De Cady, can be reached on (703) 305-9595.

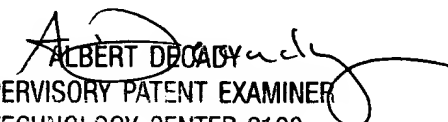
Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Guy J. Lamarre, P.E.



Patent Examiner

12/1/02



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